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Where's the Pork?

Money for R&D: Ups and Downs on Capitol Hill

Washington's annals of grantland have lately been enlarged by several enchanting episodes that merit notice:

First there is the matter of Georgetown University, which last year talked the Congress into giving it $820,000 in funds that the US Army Research Office had intended for other purposes. With that money, Georgetown began drawing up a plan for a $220-million, five-year energy program for the Pentagon. Given the award on a non-competitive basis, and, in fact, without much notice outside of those directly involved, Georgetown was back this May 15 asking for a second installment, of $9 million. The request is still in the Congressional mill as academe's multi-university lobbying groups, alarmed by this latest solo run at the US Treasury, rally their Capitol Hill friends for a last-ditch defense.

The annual amounts in the Georgetown award would rise sharply in the latter years of the project, for which the Army is down for $160 million. The Department of Energy and private industry are also in the picture, but their financial roles in the stated grand total of $220 million are far from clear.

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The project for which these sums are intended is known as the National Exemplar Coal-Gasification Fuel Cell Cogeneration Program. And Georgetown, which makes good use of its location in the capital to cultivate influential friends, got off to a fast pursuit of the venture last year through the venerable device of an appropriations amendment that virtually excluded competition. In the words of the House Appropriations Subcommittee on Defense, the Army was "directed to provide an $820,000 planning grant . . . to the appropriate university in Washington, DC." The recipient of the grant was to "analyze specific Army sites in Pennsylvania, Alaska, and also at the appropriate university site in the District of Columbia . . . "

Responding to the appropriations directive, the Army Research Office came up with the money for Georgetown by cutting the budgets of other research categories as follows: Soil and Rock Mechanics, $80,000; Snow, Ice, and Frozen Ground, $140,000; Scientific Problems with Military Applications, $250,000, and Combat Support, $350,000.

Small change for the Defense Department, but the funds that the military services are putting into universi-

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In Brief

Rumors persist that Richard D. DeLauer, Under Secretary of Defense for Research and Engineering, plans to resign this summer. If he goes, the xenophobes on the policymaking side of the Pentagon will pretty much have a clear field on the science and secrecy issue—regardless of assurances from Presidential Science Adviser George A. Keyworth II (see page 4). DeLauer has been fighting a holding action on these issues (SGR Vol. XIV, No. 8), but several crucial power decisions have gone to the other side, lead by DoD's head zealot, Assistant Secretary Richard Perle.

The villainous crew that the Administration originally assigned to run the Environmental Protection Agency is long gone, and morale there is high under William Ruckelshaus. But on the crucial issue of money for EPA, the White House remains tightfisted. A study by the Congressional Budget Office shows a standstill 5 percent increase in EPA's 1985 budget request. That works out to "real" decline of 41 percent since 1980 in the agency's budgets for air and water quality, hazardous waste and toxic substances. In 1980, EPA was budgeted for $223 million for R&D. Last year, R&D was down to $137 million. The request for next year calls for raising that sum by 2 percent.

The Office of Management and Budget has offered some convoluted thoughts on why both NIH and Agricultural research should make do with minor budget increases next year. "Holding 1985 budget growth below the inflation rate would help keep the longterm growth trend of . . . NIH [grant-supported] activities at a more sustainable level for the remainder of 1985." As for ag's plentiful supply of ancient lab buildings, OMB says, new buildings are "unnecessary and unwarranted [because] a number of exisiting laboratories are underutilized . . ." The advice, and lots more like it, is in a new OMB publication, "Major Themes and Additional Budget Details, FY 1985."

. . . Pornography Project Rouses House Criticism

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ty-based research are mostly in that precious category of "new money," and it's much sought after in many universities. So far, however, DoD's return as a major source of academic support has tended to be slow. And those institutions that have been competing for it according to the rules are not pleased by Georgetown's nimble performance.

In another episode of money and research, a Congressional committee has recommended wiping out, rather than creating, a research program. The action was taken May 10 by the House Education and Labor Committee and it was inspired by several academic awards by the Department of Justice's Office of Juvenile Justice and Delinquency Prevention. Created in 1974, OJJDP was little of heard until the Reagan Administration made it its mouthpiece and action arm for the claim that violence in the schools is a major problem—a thesis that some regard as an ideologically based exaggeration for diverting attention from the money problems of education. OJJDP is headed by Alfred Regnery, son of the right-wing publisher Henry Regnery.

In 1983, OJJDP awarded $798,531, on a non-competitive basis, to Judith Reisman, whose curriculum vitae lists a 1979 PhD in Speech Communication from Case Western Reserve University, with a "Doctoral Field of Concentration" in "The Application of Aristotelean and Systems Analytic Theory to Mass Media Effects." The OJJDP award, for two years, was for a project titled "Role of Pornography and Media Violence in Family Violence, Sexual Abuse and Exploitation, and Juvenile Delinquency."

Reisman, who says she has published extensively on the relationship between pornography and violence, apparently came to the attention of OJJDP after appearing on a Washington radio talk show. When the award was being discussed, Reisman says, she was on the faculty of the University of Haifa, in Israel. A base for her OJJDP project was provided by American University, in Washington, upon the recommendation of Myra Sadker, Dean of the School of Education, who wrote that "Obviously, my recommendation that Dr. Reisman be appointed as a Research Professor is contingent upon receipt of external federal funding." That amounts to an offer of a job if you bring your own money—amazing in the non-academic world, but, let's face it, not unusual in universities. The award included $238,777 for AU in indirect costs.

The Reisman award and another non-competitive award, for $4 million to Pepperdine University, in California, for a-violence-in-the-schools study, aroused the anger of Rep. Ike Andrews (D-NC), Chairman of the Education and Labor Human Resources Subcommittee. At a hearing in April, OJJDP's Regnery and staff associates praised Reisman as a talented researcher in an important and neglected field. But Andrews strongly suggested that she had misrepresented her publications record and that OJJDP's support was inspired by ideological rather than scholarly motives.

The full Education and Labor Committee backed up Andrews in an authorization bill that assailed OJJDP and its grants in unusually harsh language. Noting that Justice Department regulations require "competition [for research awards] except in exceptional circumstances," the report stated that Regnery had been issuing many exceptional awards.

"One in particular," the report stated, "which was awarded to American University, provided funds to an untenured faculty person who was recommended for appointment only on condition that she would be accompanied by federal funds.

"Within this non-competitive grant . . . money was included for the director to relocate herself from a foreign country and to make a trip to that country to pack and retrieve her files, all at taxpayer expense"—a reference to Reisman's move from Haifa to Washington.

"The Director was little published—only one article locatable through the Congressional Research Service—and had been out of graduate school less than four years," the report continued, adding that "The award included $10,000 for pads and pencils and $20,000 for long-distance telephone calls." (In response to an inquiry from SGR, Reisman said she has published extensively in professional publications, but that her c.v. con-

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Q&A: Keyworth Urges Industry Ties for Academe

SGR and Presidential Science Adviser George A. Keyworth II ranged over a variety of science-related issues in a conversation on May 23. Following is the text, edited by SGR for brevity and clarity—DSG:

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SGR. Would a second Reagan Administration bring more of the same for science and higher education, or are there policy changes under consideration?

Keyworth. The increases in basic research budgets will continue, but you'll see more and more emphasis on how that money is spent, particularly on high-leverage programs [in which government support is contingent on funds from other sources, mainly industry and state or local governments]. We've learned a lot from the Presidential Young Investigators Program [a new NSF program that combines federal and industrial support for promising young faculty members, particularly in engineering]. There are some fundamentally important things in that program, such as that it doesn't give a grant for a research proposal; it gives support for clearly top potential talent. I think that approach is probably going to be broadened. In the university engineering centers that are developing at NSF now, you'll see a lot more attention to that. And you'll see some of those high-leverage models extend into other government agencies.

SGR. If you were the vice president for planning at an ambitious university, what would you be setting in place now to prepare for opportunities that may come along in a couple of years?

Keyworth. I'd be paying a lot of attention to building mechanisms for industrial input and industrial participation. And that's happening. Outside the [Washington] beltway, they're way ahead on this. I doubt that you can find a state that doesn't have some initiative underway to build some kind of industrial-academic interaction.

SGR. Is there a large potential for industrial collaboration that remains uexploited?

Keyworth. Industry has moved away from a lackadaisical, let's call it almost charitable, interest in universities to the realization that to compete effectively, it's going to have to pay some attention to the kind of talent that it's going to need in the future. Industry's emphasis has moved away from seeing what near-term benefit it can get from research that's going on in universities, such as occurred between the pharmaceutical industry and biotechnology research in universities. They're moving away from that to participation in the process that produces talent.

SGR. Do you find this extending beyond the top 50 or 100 R&D-oriented companies?

Keyworth. I do. You think of IBM, for instance, as being the key player in this. Go look at the John Deere Company. And small companies are finding ways of getting involved. But I'm not talking about industry picking up support of basic research. The government probably is going to continue to play the dominant role; industry now provides appreciably less than 10 percent. Maybe that will increase, but it's still going to be a very modest amount. What's important is not the dollar amount, as much as it is that the longrange needs of industry are realized and brought into the academic research environment. So that an engineer or a scientist

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AU Project

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tained some errors of a clerical nature. She also said the Committee report's references to money were misleading. Officials at American University told SGR much the same.)

The report went on, "Additionally, questions of political favoritism were raised about this grant and another large non-competitive grant in the amount of $4 million, which were granted to universities and individuals with reported connections to a prominent White House Official." The reference is to White House Counselor Ed Meese, who's on a window-dressing 150-member National Advisory Board at American University, and who has had long associations with Pepperdine; Meese's wife is on the AU Board of Trustees. AU officials say neither of them knew about Reisman or had anything to do with her appointment.

That didn't persuade Andrews. His report mandates competition for all future grants by OJJDP, but then it also "removes research from among the functions" of the National Institute for Juvenile Justice and Delinquency Prevention, which is part of OJJDP. The money, $2 million to $3 million a year, would go directly to state and local governments—which would put OJJDP out of the research business. The Reisman project is well underway and unaffected by the committee's actions.

The full House still has to act on the bill, and the Senate has to get on with its version, which contains none of the above.—DSG

New NSF Deputy Picked?

It hasn't been announced, as of this writing, but SGR hears that the White House has finally picked a Deputy Director for the National Science Foundation—and only 18 months after the post became vacant. The choice is said to be Erich Bloch, IBM Vice President for Technical Personnel Development. Other appointments are said to be in the mill for the remaining vacancies at the upper levels of NSF.

. . . Says DoD Falls Short on University Programs

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who's educated at some Middle Western university, for example, doesn't find industry foreign territory. Or if there is a rapidly expanding need in industry for polymer scientists, that that emerging need is appreciated and elicits a response in the universities.

SGR. But what does this mean for the finances of a non-science department?

Keyworth. The federal government is very interested in the training of the kind of talent that is essential to compete. That means scientists and engineers. I don't think the federal government is going to be an active player in the support of English departments or in education in a more general way, other than to encourage public attention to education

Defense vs. Civilian R&D

SGR. Concern about the federal government's heavy swing toward military research and away from civilian research has been expressed recently by some people, including Lew Branscomb [IBM Vice President and Chief Scientist and former Chairman of the National Science Board—SGR Vol. XIV, No. 6.] Are those proportions going to remain?

Keyworth. We've seen a significant reduction in [civilian] development funds and a significant increase in basic research. The squeeze on development funds has, in large measure, been accomplished, and most of what remains is necessary and appropriate. I think we'll continue to see basic research rise. The primary growth in civilian research will be in basic research. The emphasis on defense R&D will continue, but I doubt it will continue at the same kind of growth rate that it's had in the past.

SGR. Congress has been hearing that the defense R&D budget has grown to the detriment of the civilian economy.

Keyworth. I'm quite sensitive to that. I talk to a lot of leaders in American industry who are not part of the defense establishment. And I do not think that's a widespread perception at all. The most overwhelming manpower bottleneck that we're suffering from right now is in computer sciences, and that bottleneck is going to be there regardless of defense—the demand is vastly outstripping the supply. But the Department of Defense has to play a far more effective role in its own support of basic research. It is a major user of top talent.

SGR. It's increased its support for universities, but not by much.

Keyworth. DoD's support for universities has grown much slower than that of other agencies, at a time when the Defense R&D budget is growing far more rapidly than other agencies.

SGR. What accounts for that?

Keyworth. Penny-wise, pound-foolish. I'm very frustrated over that. I think it will hurt DoD in its ability to appreciate and draw upon forefront technology. They simply will not have adequate access to the university environment where much of that most important research is going on.

SGR. The Defense Department has also managed to create a lot of friction with universities on the issue of security and secrecy.

Keyworth. I don't think very many actions have been taken that have constrained the universities. Very little has actually happened.

SGR. With [Richard] DeLauer [Under Secretary of Defense for Research and Engineering] on the way out, it would seem that the constraints are likely to increase.

Keyworth. I think that constraints on the university research environment through technology-transfer concerns of the government will be very, very few and will not in any way change the present academic environment.

SGR. Do you think that the presidents of Stanford, MIT, and Caltech were overreacting when they wrote you and DeLauer about rules that might prohibit publication of some Defense-supported research? (SGR Vol. 14, No. 8.)

Keyworth. They were overreacting in the sense that what they were afraid of was not a position that this Administration was likely to take. Their overall concern was a valid one. I sympathize with their concerns and I have all along. But the immediate fear they had at the time of the most stringent possibile conceivable restraints being put on universities was unfounded and there weren't actions that had been taken. Their basic concern was justifiable. But I think the debate on tech transfer is a thing of the past. Why don't I just leave it there?

"US Citizens Only" Meetings

SGR. It seems to be more active than ever. And you're saying it's been laid to rest? Stake through the heart?

Keyworth. I'm not sure that it has one heart, but I don't think there are going to be any constraints through technology transfer on the university environment that we don't have now.

SGR. No more "US Citizens Only" signs at meetings that were previously open?

Keyworth. It's happened twice that I know of in three-and-a-half years. I won't say that it won't happen twice in the next three-and-a-half years. I don't think there has been any real impact on the academic environment to date, and I don't think there's going to be any in the future. Make a big deal out it, if you want, but there

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. . . "Paranoia" Over Academic Security Episodes

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have been two meetings, Photo-Optics and the Vacuum Society (SGR Vol. XIV, No. 4), where an arrest was made [of a visiting Eastern German researcher on espionage charges unrelated to the meeting] and when daylight came, no one criticized it. What there is is paranoia. No action has been taken that has been unsupportable, and what there has been is sheer paranoia over what might happen. Nothing has happened, and nothing is going to happen.

SGR. Science attaches from friendly countries say their scientists are being denied admission to meetings here that used to be open.

Keyworth. We've probably had tens of thousands of meetings in this country in the last year, and I defy you to find five examples. I strongly suspect if you go back ten years, you'll find a comparable number. It's paranoia, it's ghosts.

SGR. You're saying these are very rare events whose importance has been greatly exaggerated.

Keyworth. Exactly. I think that some of the debate that has occurred in government and that has fostered this paranoia will be resolved.

Star Wars "Feasible, Necessary"

SGR. The President's Star Wars [ballistic-missile defense] program has been criticized as technically unattainable and strategically dangerous. And there's been some confusion about where you stand on it.

Keyworth. I believe, like religion almost, that strategic defense against ballistic missiles is feasible, necessary, and stabilizing. But we've got to take the same kinds of steps that American industry has been taking to compete against the Japanese challenge. We've got to use our best technology to regain lost leverage to restore our position in national security. And I believe we will do it through rethinking old problems with new ways. And I think the Strategic Defense Initiative [Star Wars] is the first new thinking about deterrence that we've seen in decades. I think it's critical, it's long overdue, and interestingly enough, the debate so far has been illuminating, but it reveals more resistance to change than it does cogent, credible arguments.

SGR. Are you saying that if we spend enough and work hard enough, we can develop a reliable defense against missiles?

Keyworth. Definitely yes. I think the technology is here to allow us to develop an extremely effective system that will achieve the President's main objective, which was reduced reliance on nuclear weapons and a future era of vastly greater world stability.

SGR. Would this be an impermeable defense or it would offer only high reliability?

Keyworth. It would be a system that is so effective that a near-term objective would be to deny the Soviets any conceivable first-strike opportunity, and ultimately to achieve a drastically reduced reliance on nuclear weapons.

SGR. Would this eliminate 100 percent of incoming missiles? Would perhaps one percent get through?

Keyworth. There's a very, very fundamental point here. All this debate about accuracy is to me a *non sequitur*. The fact of the matter is that you want a system that is sufficiently effective so that the Soviet Union would not dream of attacking the United States. It doesn't have to be 100 percent effective, because the Soviet Union is never going to attack us when they can no longer be certain that their military objectives can be met. And with one percent leaking through, for example—you chose the number—they have absolutely no way of knowing or being confident that they can achieve their military objectives. However, as a scientist, I think one approaches this problem with the objective of achieving a totally effective system. If one nuclear weapon gets throughs, that's unacceptable devastation. But that belies completely the fact that the Soviet Union is never going to throw 10,000 nuclear weapons at us with the realization that only one percent is going to get through.

SGR. A lot of knowledgeable people who are committed to the defense and security of this country scoff at missile defense as unworkable and destabilizing. Are they misguided or misinformed, or do you have information unavailble to them?

Keyworth.I routinely see articles by people who show little awareness of the information available to the President when he chose to give his [Star Wars] speech, in terms of technological advances that have been made in the past few years.

"Space Assets" Survivable

SGR. What advances are they ignoring?

Keyworth. The primary advances have to do with the enormous breakthroughs that have occurred in microelectronics, which gives us enormous new opportunities in accuracy and communications, command, and control. Parallel advances have occurred in materials, laser technology, and—broadly speaking, because of classification—one of the particular areas that has always been a difficult point of strategic defense, survivability of space assets. We possess the technology today to deal very effectively with survivability of space assets.

SGR. The credentials and background of many of the critics suggests they're in positions to be aware of these developments.

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. . . Charges Star Wars Critics Are Out of Date

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Keyworth. You've spoken of the science establishment and science being two different things. Now, American science is progressing and is at the top of the world order because of those people who are out there in their laboratories, doing science, publishing, and communicating with their world peers. They're not the science establishment.

SGR. You seem to be saying that the critics of Star Wars are yesterday's men.

Keyworth. They are yesterday's men and I think they are heavily representing resistance to change. I haven't heard good, solid scientific arguments on why it won't work. They say, "It won't work." What won't work? I hear arguments that we can't develop large optics for, example—paying absolutely no attention to the fact that we have made massive breakthroughs in the development of segmented optics in the last few years. The situation in respect to optics in 1984 is very different from 1978. I see very little attention paid to the fact that deterrence posture has created a far more unstable world in 1984 than we had in 1960.

SGR. What do you see in terms of timetable and costs for missile defense?

Keyworth. There is no one who can talk intelligently about costs.

No Answer from NASA

SGR. What about the other big proposal, the space station? That's aroused a lot of opposition, too.

Keyworth. My concern about it is that I've never been able to understand the space station as an end in itself. I understand it clearly as an element in a vigorous and expanding space program. I've been asking for three years, of NASA primarily, what are you going to do with the space station? If it is an element in an expanding space program, then let's try to think out 20 years. They bring to me new descriptions of what the space station will look like, budget projections for how it will be distributed over 10 years in a way that is acceptable, and we talk about expanding opportunities in space. And I ask, "Expanding opportunities in what areas?" We talk about materials processing and we talk about the biological area, pharmaceuticals, about processing crystals for microelectronics, and so on. And I ask top scientists around the country to try to expand upon that, and then I compare that with what's happening right here on earth, and I see that the rate of projection is phenomenal right down here on earth and highly nebulous there. What we need to do as a nation is ask ourselves where the space program could be going in the next 20 years, and we need to embark on a path that maintains us out front in space science, research, and exploitation.

SGR. Has NASA given satisfactory answers to those questions?

Keyworth. I don't know, but I haven't seen any.

SGR. So, you feel they're going ahead without any clear idea of where they're going?

Keyworth. No. The space station is, as NASA says, a logical next step in space. But I think we have a lot of work to do, and I don't think it's been done.

SGR. The National Academy of Sciences recently decided to explore resumption of some of the relations that it broke off with its Soviet counterparts (SGR Vol. XIV, No. 9).

Keyworth. I was rather surprised. The Academy broke off those interactions because of Poland, Sakharov and Afghanistan. I don't see that the basic situation has seriously changed. As I understand it, the driving motive was their concern about an urgent need for arms control. But I think we have in our democratic system clear opportunities to tell our leadership about the need for arms control. Arms control is achieved through government, not through private, well-meaning groups.

SGR. They were stressing keeping open lines of communication. They weren't aiming to negotiate an arms control agreement.

Keyworth. We maintain lines of communication with the Soviet Union at all times.

SGR. Do you regard this as a well-intentioned but seriously misguided effort on the Academy's part?

Keyworth. I have grave doubts as to its effectiveness, utility, or even whether there's a clearcut set of objectives. It's well intentioned, but I'm not sure I can go any further.

SGR. Have you had any discussions with the Academy about this move?

Keyworth. I keep in touch. I've been talking to some of the scientists [in the Academy].

SGR. Did you indicate that you don't think this is a good move?

Keyworth. I have not wanted to indicate to any private group that they should or shouldn't do something.

SGR. A number of people, including Frank Press [President of the National Academy of Sciences], have been saying that the scale of scientific effort in the Soviet Union is so large that we're better off keeping in touch with it.

Keyworth. That may well be true, but we elect leaders of our country to make decisions on foreign policy.

SGR. For the purpose of being informed about what's going on in the Soviet Union, do exchanges and contacts play a useful role?

Keyworth. The fact is that we still maintain a pretty fair flow of scientific information with the Soviet Union. We still have some scientific exchanges underway. We are not isolated from the Soviet Union, by any means.

France: Diderot Encyclopedia in Modern Dress

Paris. The 200th anniversary of Diderot's death is being observed here not only with the declaration of 1984 as Diderot Year, but also with the launch of a vast and considerably confused effort to produce a modern-day counterpart of the enlightenment philosopher's worldshaking, unprecedented Encyclopedia of all knowledge. Totaling 28 volumes that were in the works from 1751 to 1772, the Diderot Encyclopedia was banned in midstream as a menace to royal authority and religious orthodoxy. Nonetheless, it saw the light of day, and is properly credited as supplying intellectual tinder for the revolution that came seven years later.

The model 1984 Diderot Project, titled *L'Encyclopedie des Questions Vives,* (The Encyclopedia of Vital, or Currently Important, Issues) harmonizes with the Mitterrand government's overflowing faith in science and technology as the salvation of the sickly French economy. The original Encyclopedia nourished and accelerated science and technology by bringing into the open great bodies of knowledge that were either ignored by narrow-minded elites or carefully guarded by bastions of establishment power that really understood the power of knowledge. And so, the Mitterrand government, trying to instill American-style high-tech attitudes in all sectors of this highly conservative society, has fastened on the Encylopedia as a helpful device.

The project, entrusted to a task force, calls for a comprehensive gathering of knowledge accompanied by a permanent process of updating. However, 200 years after Diderot, often working with little or no assistance, produced what amounted to an anti-establishment critique, the world has changed a great deal. The first move on the part of the Encyclopedists of the French Socialist Government was to propose creation of a government-subsidized foundation to run the project.

The proposed foundation would include the standard components of many modernday bureaucratic structures—a board of directors, a committee of influential patrons, a managing director, and a working staff. In essence, the proposal calls for reinventing the publishing company, with one exception. There would also be a government-appointed committee responsible for making "the necessary choices for the intellectual conception and realization of the Encyclopedia."

As alarm grows about what may come out of this vast enterprise, critics find comfort in the fact that the Encyclopedia is bound to be so expensive that second thoughts are certain to develop among its supporters. So far, in the best tradition of the *ancien regime* of Diderot's time, the cost estimates are secret. Nonetheless, it appears that the materials in the new Encyclopedia will be brought to public attention through a variety of "means of action." These are said to include published materials that will appear in installments, a library collection to serve various audiences, an electronic data system, and a newsletter.

Still to be heard from concerning this venture is the Minister of Industry and Research, Laurent Fabius. It was his predecessor, Jean-Pierre Chevenement, Minister of what was then the Ministry of Research and Industry, who launched the Encylopedia in 1982, before his ouster from the Government. Fabius, as the turned-around title of the Ministry suggests, is mainly concerned with industry, and has been more than silent about research. He has actually been secretive.

It was not too long ago, however, that he seemed to be taking a keen interest in research and in public discussion of the government's programs. In January, the Ministry published a report, of a type common in the US but no so here, describing the programs and resources of government laboratories and setting out their research objectives. The report, drawn up by the Ministry in collaboration with the labs, represented an immense undertaking. But then it was abruptly embargoed, apparently because the Government didn't care to reveal the objectives it had set for its laboratories.

The reason for this is that support for research is below what the research community had hoped for and even less than was promised during the early days of big talk about a freespending scientific renaissance. The budget which the legislators had voted in December was reexamined in March and was cut by $150 million—about 3 percent of the total. The burden falls mainly on the *Centre National de la Recherche Scientifique* (CNRS), which is akin to the US National Science Foundation as a granting agency for basic research, but also runs an extensive network of laboratories throughout the country. Researchers had become accustomed to great but unfulfilled promises during the 1970s. In 1982 and 1983, budgets were actually increased. The recent turnaround is viewed with gloom.

Both the Government and Minister Fabius hold great hopes for research and technology as the solution to France's economic difficulties. At the end of February, new programs of support for industrial research were announced, and grants were doubled for researchers working on problems of interest to industry.

As the economic situation remains dismal—and is perhaps even deteriorating—Mr. Mitterrand is following politicians of other nations in seeking a new economic future for dying smokestack regions. "It is in the link between researchers, universities, and industry that the solution will be born," he stated during his last press conference.

Among the few avowed skeptics of this medicine was Pierre Papon, Director General of CNRS. "Research and technology cannot bring about a short-term solution," he warned, adding that "Research cannot create massive employment within a few years."—FS

New International Role Endorsed by NSF Board

The often-made complaint that US science is too inward looking and indifferent to foreign accomplishments has stirred a sympathetic response from the National Science Board, the policymaking body of the National Science Foundation. At its most recently monthly meeting, May 11, the Board endorsed a report calling on NSF to pay more attention to international scientific activities.

Responding to a series of recommendations prepared by a committee chaired by William A. Nierenberg, Director of the Scripps Institution of Oceanography, the Board agreed to establish a standing Commmittee on International Science. Its jurisdiction would include the "Role of foreign nationals in US science and engineering," and "Scientific mobility and international exchange"—subjects on which the easygoing NSF differs sharply with the Adminstration's hardliners.

The Board asked NSF Director Edward A. Knapp to report soon on several other recommendations, including that NSF consider taking a lead in "planning and implementing at least one major global initiative." Two subjects were suggested by Nierenberg's committee: preservation of tropical forests and development of an international scientific information system.

Lab Equipment Study

The National Science Foundation has finally published the results of its 1982 survey of the state of laboratory apparatus for the physical sciences, engineering, and computer sciences in a sampling of major universities—and as expected, it found that they're awash with antiquated instruments.

NSF says that researchers at 43 big universities described "about one-fourth of the 22,300 items in their 1982 research equipment inventory as obsolete and no longer in use." The physical sciences and engineering were reported the worst off, with 24 percent of their equipment classified as obsolete; the computer departments put only 17 percent of their equipment in that category.

The survey found that half of all the equipment was bought within the previous five years, and that 31 percent was at least 10 years old. NSF also reported that "Each instrument system in use in 1982 was used by a median of seven researchers." For computer-sciences equipment, the median was 25.

A 4-page summary of the survey, NSF 84-312, is available without charge from Division of Science Resources Studies, NSF, 1800 G St. Nw., Washington, DC 20550.

New Director for Argonne

Alan Schriesheim, a former Exxon research executive who was appointed Senior Deputy Director of the Argonne National Laboratory last September, has been named Director of Argonne. He succeeds Walter E. Massey, who will continue as Vice President of Research at the University of Chicago, which manages Argonne for the Department of Energy. Schriesheim is Argonne's first Director with a senior-level industrial background. Like all the other national labs, Argonne has been directed by the White House to get closer to industry.

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